

AMENDMENTS TO THE CLAIMS

The following is a complete, marked up listing of revised claims with a status identifier in parentheses, underlined text indicating insertions, and strikethrough and/or double-bracketed text indicating deletions.

1. (Currently Amended) A computer-readable medium storing a computer executable program to reproduce a data structure and having ~~[[a]]~~ the data structure for managing reproduction of at least video data having multiple reproduction paths recorded on the computer-readable medium, comprising:

~~at least one~~ a navigation area storing navigation management information for managing reproduction of the video data having multiple reproduction paths recorded on the computer-readable medium, said navigation management information having angle change information corresponding to each of a plurality of video data blocks,

wherein said angle change information indicates whether an angle change is permitted or not, and

the angle change information further indicates where ~~[[an]]~~ the angle change is permitted and thus, the angle change from a current angle to a requested angle is performed if the angle change is permitted and the reproduction of the video data of the current angle is maintained until a reproduction position reaches a position at which the angle change is permitted.

2. (Currently Amended) The computer readable medium ~~as recited in~~ of claim 1 wherein the navigation management information includes an entry point map having the angle change information.

3. (Previously Presented) The computer readable medium of claim 1, wherein said navigation management information includes an entry point corresponding to one of said plurality of video data blocks.

4. (Currently Amended) The computer readable medium of claim 1, wherein said navigation management information includes a start point of a presentation time stamp, said start point of [[the]] a presentation time stamp is corresponding to one of said plurality of video data blocks.

5. (Previously Presented) The computer readable medium of claim 1, wherein said navigation management information includes source packet identification information for a corresponding one of said plurality of video data blocks.

6. (Cancelled)

7. (Currently Amended) The computer readable medium of claim 1, wherein said navigation management information includes an indicator for indicating a stream type information of the video data, said indicator is corresponding to one of said plurality of video data blocks.

8. (Currently Amended) The computer readable medium of claim 1, wherein said navigation management information includes offset information regarding I-picture pointing to an address of a last I-picture contained, said offset information is corresponding to one of said plurality of video data blocks.

9. (Cancelled)

10. (Cancelled)

11. (Previously Presented) The computer readable medium of claim 2, wherein said angle change information corresponding to each of a plurality of video data blocks is included in the entry point map.

12. (Previously Presented) The computer readable medium of claim 1, wherein said angle change information corresponding to each of a plurality of video data blocks includes the address of the last interleaved video unit in the corresponding video data block.

13. (Cancelled)

14. (Previously Presented) The computer readable medium of claim 1, wherein said video data having multiple reproduction paths are recorded in the unit of angle block which is referred by angle change information.

15. (Previously Presented) The computer readable medium of claim 14, wherein data for each reproduction path data are recorded as one or more angle blocks and the angle blocks are interleaved.

16. (Currently Amended) A method of recording a data structure for managing reproduction of at least video data having multiple reproduction paths on a recording medium, comprising:

generating navigation management information for managing reproduction of the video data having multiple reproduction paths in ~~at least one~~ a navigation area of the recording medium, said

navigation management information having a plurality of angle change information corresponding to each of a plurality of video data blocks,

wherein said angle change information indicates whether an angle change is permitted or not, and

said angle change information further indicates where an angle change is permitted, and thus the angle change from a current angle to a requested angle is performed if the angle change is permitted and the reproduction of the video data of the current angle is maintained until a reproduction position reaches a position at which the angle change is permitted; and

recording the navigation management information in ~~at least one~~ the navigation area of the recording medium.

17. (Currently Amended) A method of reproducing a data structure for managing reproduction of at least video data having multiple reproduction paths on a recording medium, comprising:

reproducing navigation management information for managing reproduction of the video data having multiple reproduction paths from ~~at least one~~ a navigation area of the recording medium, said navigation management information having a plurality of angle change information corresponding to each of a plurality of video data blocks,

wherein said angle change information indicates whether an angle change is permitted or not, and

said angle change information further indicates where an angle change is permitted; and

controlling ~~[[a]]~~ reproduction ~~path~~ of the video data having multiple reproduction paths according to the navigation management information, such that the angle change from a current angle to a requested angle is performed if the angle change is permitted and the reproduction of the

video data of the current angle is maintained until a reproduction position reaches to a position at which the angle change is permitted.

18. (Currently Amended) An apparatus for recording a data structure for managing reproduction of at least video data having multiple reproduction paths recorded on a recording medium, comprising:

a recording unit configured to record data on the recording medium; and

a controller operably coupled to the recording unit, configured to control the recording unit to record navigation management information for managing reproduction of the video data having multiple reproduction paths in ~~at least one~~ a navigation area of the recording medium, said navigation management information having a plurality of angle change information corresponding to each of a plurality of video data blocks, wherein

said angle change information indicates whether an angle change is permitted or not, and

said angle change information further indicates where an angle change is permitted,

wherein the controller is configured to control the recording unit to perform the angle change from a current angle to a requested angle if the angle change is permitted and the reproduction of the video data of the current angle is maintained until a reproduction position reaches a position at which the angle change is permitted.

19. (Currently Amended) An apparatus for reproducing a data structure for managing reproduction of at least video data having multiple reproduction paths recorded on a recording medium, comprising:

a reproducing unit configured to reproduce data recorded on the recording medium; and

a controller operably coupled to the reproducing unit, configured to control the reproducing

unit to reproduce navigation management information for managing reproduction of the video data having multiple reproduction paths from ~~at least one~~ a navigation area of the recording medium, the controller configured to control the reproducing unit to execute an angle change if an angle change authorization is detected in the navigation management information, wherein

said navigation management information includes angle change information corresponding to each of a plurality of video data blocks,

said angle change information indicates whether an angle change is permitted or not, and

said angle change information further indicates where an angle change is permitted,

wherein, the controller is configured to further control the reproducing unit to perform the angle change from a current angle to a requested angle if the angle change is permitted and the reproduction of the video data of the current angle is maintained until a reproduction position reaches a position at which the angle change is permitted.

20. (Currently Amended) The apparatus of claim 18, wherein said controller is configured to create the navigation management information based on a reference information received via an interface, the navigation management information including an entry point map for accessing the corresponding video ~~block~~ block, the entry point map having one or more entry points corresponding to one of said plurality of video data blocks, the entry point map including the angle change information.

21. (Currently Amended) The apparatus of claim 18, ~~wherein~~ said recording unit ~~comprises~~ comprising:

an encoder configured to encode at least video data; and

a multiplexer configured to multiplex at least video data to create a transport stream according to control information of the controller.

22. (Currently Amended) The apparatus of claim 21, wherein said recording unit further comprises:

a packetizer configured to packetize the transport stream from the multiplexer into source packets in accordance with a format of an optical disk, said packetizer is controlled by the controller.

23. (Previously Presented) The apparatus of claim 19, wherein the navigation management information includes an entry point map, said entry point map including the angle change information, wherein said controller is configured to analyze the angle change information if the angle change is requested via an interface, and control the reproducing unit to selectively change the reproduction path based on the analyzed angle change information, the angle change information including at least one indicator for indicating whether the angle change is permitted or not.

24. (Currently Amended) The apparatus of claim 19, wherein said controller is configured to reference an entry point map within the navigation management information to determine if a request for the angle change is permitted or not, the entry point map including one or more entry points corresponding to one of said plurality of video data blocks.

25. (Currently Amended) The apparatus of claim 19, wherein said controller is configured to control the reproducing unit to ~~delay the execution of the angle change until a reproducing position reaches to the end of the angle block or~~ ignore ~~[[the]]~~ a request for the angle change, if the request

for the angle change is not permitted, ~~while said controller is configured to control the reproducing unit to execute the angle change if the request for angle change is permitted.~~

Please add the following new claims:

26. (New) The method of claim 16, wherein said generating step includes generating the navigation management information including an entry point map including the angle change information.

27. (New) The method of claim 16, wherein said generating step includes encoding at least video data and multiplexing at least video data to create a transport stream.

28. (New) The method of claim 27, wherein said generating step further includes packetizing the transport stream into source packets in accordance with a format of optical disk.

29. (New) The method of claim 17, wherein the controlling step includes analyzing the angle change information if the angle change is requested via an interface, and selectively changing the reproduction path based on the analyzed angle change information, the angle change information.

30. (New) The method of claim 17, wherein the controlling step includes referring to an entry point map within the navigation management information to determine if a request for the angle change is permitted or not, the entry point map including one or more entry points corresponding to one of said plurality of video data blocks.

31. (New) The method of claim 30, wherein the controlling step includes ignoring the request for the angle change, if the request for the angle change is not permitted.

32. (New) The apparatus of claim 19, wherein the controller is configured to control the reproducing unit to delay the angle change until a reproduction position reaches to the end of the angle block.

33. (New) The apparatus of claim 19, further comprises a user interface for receiving the request for the angle change from a user, wherein the controller operably coupled to the user interface, is configured to perform the angle change based on the received request through the user interface.

34. (New) The apparatus of claim 18, further comprises a user interface for receiving the request for the angle change from a user, wherein the controller operably coupled to the user interface, is configured to perform the angle change based on the received request through the user interface.